

Intestinal obstruction by stones in a turtle

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A 2½-year-old, female, red-eared slider (*Trachemys scripta elegans*) was admitted to the Veterinary Hospital with a history of anorexia, no defecation, and difficulty in swimming for 19 d. She was fed shrimps and a commercial diet for turtles, and was kept in a small artificially illuminated aquarium. She had been ingesting and expelling aquarium stones for 3 mo.

The animal was lethargic and depressed; the shell was normal. Ventrodorsal radiography showed intestinal dilation, associated with numerous radiopaque foreign bodies (Figure 1). We elected to do surgery. Anesthesia was induced with ketamine [15 mg/kg body weight (BW)] and midazolam (0.5 mg/kg BW), administered IM, and maintained with halothane, using a face mask. The turtle was positioned in dorsal recumbency. A rectangular piece of the plastron was cut out. A ventral midline incision was made through the coelomic membrane. The 2 venous sinuses were not damaged. The intestine was distended with visible pressure necrosis and perforated areas (Figure 2). Three full-thickness longitudinal incisions were made along the antimesenteric border of the intestine. One hundred and five stones were removed. The enterotomy was sutured with 5-0 nylon in a simple interrupted pattern. Perforations were treated by debridement and primary suture. The abdomen was washed with sterile saline and the coelomic membrane sutured with 5-0 nylon in a simple continuous pattern. The plastral flap was replaced and fixed with 4 orthopedic wires placed through drilled holes; a layer of dental acrylic was placed over the incision. Oral metronidazole (20 mg/kg BW, q12h, for 5 d), cloranfenicol (50 mg/kg BW, q12h, for 10 d), and vitamins were administered postoperatively. The turtle returned to the water 24 h later; the owner was advised to increase the size of aquarium and remove the stones. The turtle's appetite returned after 5 d. Five months after the surgery, the turtle was active, eating, and swimming without difficulty. Healing of the plastron takes from 1 to 2 y (1).

Conservative treatment (2,3) would have been a bad choice in this case, because the intestine was perforated. Although laparotomy in turtles can be performed without incising the shell (4–6), the shell was incised to

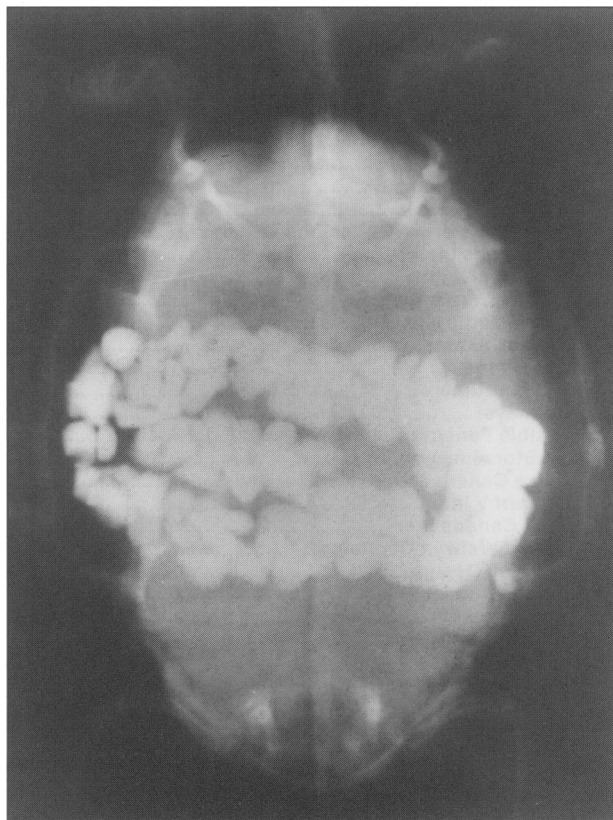


Figure 1. Ventrodorsal radiograph showing numerous radiopaque foreign bodies in the intestine.



Figure 2. Pressure necrosis and perforated areas in the intestine induced by the foreign bodies.

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improve access for removing the great number of stones. The possible reasons (3,5,7) for ingestion of the stones are difficult to explain. The diet seemed adequate and the animal did not have nutritional osteodystrophy with a soft and misshapen shell (3,5,8). The small size of the aquarium could have contributed to the abnormal behavior, similar to that observed in a tortoise kept in an enclosure with a sandy substrate (8).

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